



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,119	01/17/2002	Minghui Hong	2826-9	8997

7590 10/30/2003

NIXON & VANDERHYE P.C.  
8th Floor  
1100 North Glebe Rd.  
Arlington, VA 22201-4714

EXAMINER

EVANS, GEOFFREY S

ART UNIT PAPER NUMBER

1725

DATE MAILED: 10/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/047,119

Applicant(s)

HONG ET AL.

Examiner

Geoffrey S Evans

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-21 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

1. The drawings are objected to because in figure 5 elements 14,24,34,16,26,28,30, 32,110, and 120 are shown as black boxes that require labeling as to their function. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "further laser beams" (which must be three or greater) recited in claims 5 and 13 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. Claims 12,13,16,17,20 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how apparatus claim 12 further limits method claim 1. Perhaps apparatus claim 12 should depend upon independent apparatus claim 9. Claims 13,16, and 17 are indefinite because they depend upon claim 12. Claims 20 and 21 are indefinite as omnibus claims. See MPEP Section 2173.05(r).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1725

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1,2,4,6,9,10,12,16,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egitto et al. in U.S. Patent No. 6,509,546 B1 in view of Taura et al. in Japan Patent No. 2-220,793. Egitto et al. teaches providing a laterally disposed substrate, focusing a first laser beam and effecting relative lateral movement between the substrate and the focus point to cut the substrate. Egitto et al. does not teach using a second laser beam focused at a second focus to cut the substrate. Taura et al. teaches cutting a thick workpiece by using two laser beams made from a single laser beam using a beam splitter (element 22 in figure 1) to deliver the laser beam at different focus points. It would have been obvious to adapt Egitto et al. in view of Taura et al. to provide this to cut thick workpieces. Regarding claims 4,6,12 and 16, Egitto et al. discloses cutting a substrate with a plurality of layers (see the metal layer and dielectric layer disclosed on column 2, lines 12-16).

6. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egitto et al. in view of Taura et al. as applied to claims 1 and 9 above, and further in view of Barnekov et al. in U.S. Patent No. 5,578,229. Barnekov et al. teaches irradiating the second laser beam on a second lateral face of the substrate. It would have been obvious to adapt Egitto et al. in view of Taura et al. and Barnekov et al. to provide this to prevent interference with the kerf created by the first laser beam.

Art Unit: 1725

7. Claims 7, 8, 14, 15, 17, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egitto et al. in view of Taura et al. as applied to claims 1, 6 and 16 above, and further in view of Kasner et al. in U.S. Patent No. 4,789,770. Kasner et al. teaches using different laser beams with different to cut different materials and using optical sensors to monitor the process. It would have been obvious to adapt Egitto et al. in view of Taura et al. and Kasner et al. to provide this to more efficiently cut substrates with multiple layers made of different materials.

8. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claim 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (703)-308-1653. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703)-308-3318. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 1725

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.



Geoffrey S Evans  
Primary Examiner  
Art Unit 1725

GSE